



Park Resource Management Division: Keeping Watch On Water Quality

This year marked the eighth year of data collection for Prince William Forest Park's water quality monitoring program. Staff at the park's Resource Management Division analyzes water samples they collect to measure various indicators of water quality. Trends in the overall health of the park's streams are positive; compared with previous years, average stream health index values have remained stable or improved at most sample collection sites.

The program, which makes it possible to quantify the overall health of surface water within the park, has three components:

- Assessment of benthic macro invertebrate populations
- Testing for presence of fecal coliforms
- Analysis of water chemistry

Benthic macro invertebrate (stream-bottom insect) populations are highly vulnerable to deteriorating stream conditions, so their populations make good indicators of water quality. Prince William Forest Park uses a protocol called Save Our Streams (SOS) in which macro invertebrates are collected, identified, counted, and then returned to their collection site. A rating system, based on the number of different insect species and their tolerance to environmental conditions, determines water quality.



The South Fork of Quantico Creek spills over the dam at Lake Five after a period of heavy rain. The park insures public safety by testing its lakes each week, with closures on those rare occasions when coliform levels exceed state limits.

Fecal coliforms, such as *E. coli*, are the bacteria found in the intestines of warm-blooded animals. To protect public safety, the Virginia Water Control Board has specified its minimum standard for surface water as a maximum of 200 colonies of coliforms per 100 milliliters of water. Prince William Forest Park tests its five lakes for coliforms once each week. It also collects data at seven stream sites biweekly. If a sample taken from a lake has an excessive number of coliform colonies, the lake is closed to visitor use until subsequent test results meet the standard. Fortunately, the occurrence of excess coliform levels is rare, and it usually follows heavy storm events with high volumes of surface runoff.
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Your Fee Dollars Help Make Prince William Forest Park A Better Place

Prince William Forest Park, as a unit of the National Park Service, charges an entrance fee of \$5.00 per car. For frequent visitors (such as those who live nearby) an Annual Pass can be purchased for \$20.00.

The Recreation Fee Demonstration Program, which runs through 2003, allows each park to retain 80% of the fees it collects. The other 20% goes to a region-wide fund. The program was established when Congress passed two laws: the Omnibus Consolidated Recissions and Appropriations Act of 1996; and the Omnibus Consolidated Appropriations Act of 1997.

Prince William Forest Park has used this source of funding to bring about a variety of improvements and new projects. At Oak Ridge Campground, a year 'round facility which accomodates individual families in tents and small RVs (up to 32') we were able to install energy-efficient electrical and plumbing fixtures, add showers, and add a wheelchair-accessible site. At Turkey Run Camping Area, a tent-camping facility utilized by organized groups, fee-funded modifications include energy-efficient fixtures, a wheelchair-accessible site, and increased insulation for the restrooms.

Other improvements made possible because of user fees include: a pavilion at the Telegraph Road Picnic Area, upgraded bathroom facilities at some of our cabin camp units; and a wheelchair-accessible walking trail (built with recycled materials) at Oak Ridge Campground. The trail leads visitors to the park's amphitheater, where interpretive rangers present scheduled educational programs.

What Are Friends For? Forest Park Community Events

Each year for the past several years, Prince William Forest Park has hosted a pair of community events that we're extremely proud of. This year was no exception.

On Founder's Day (August 25th) several hundred visitors came to picnic for free on park grounds, while they enjoyed family entertainment on two stages, plus ranger programs and exhibits. Present that day were the award-winning Forest Park High School Bruin Band, the Wil Gravatt Band, noted espionage historian Linda McCarthy, and Kronosport pollution-free utility vehicles.

In celebration of National Public Lands Day (September 28th), over 120 volunteers came out on a beautiful Saturday morning to complete critical park restoration and beautification projects: trash pickup along Highway 619, tire removal from recently-acquired park property along Highway 234, exotic species removal, campground and Cabin Camp 3 rehabilitation, and cleanup of interpretive wayside signs. The hard work and enthusiasm contributed by these volunteer community members and park staff saved the park some \$10,000 of its ever-tightening budget.

The Friends Of Prince William Forest

The Friends of Prince William Forest Park is a non-profit organization formed in 1989. Its purposes include:

- Preserving and enhancing the Park and its natural and cultural resources.
- Monitoring any actions that affect the Park and its ecosystem
- Serving as a forum for citizens in decisions affecting the Park

Concerns of the Friends include:

- Protecting the Quantico Creek Watershed and others in the Park
- Preserving the Piedmont ecosystem
- Preserving the cabins built by the Civilian Conservation Corps that are on the National Register of Historic Places
- Preserving the cemetery sites within the Park
- Preserving the endangered plant and animal species
- Protecting the Park from encroaching development
- Monitoring all local, state and federal actions having an effect on the Park and its boundaries

Meetings are held on the second Sunday every month at 2 PM in the Multipurpose Building. They feature a business meeting along with informative and interesting programs. Outdoor activities are often scheduled as well. Prospective members and guests are welcome to attend the monthly meetings.

The Friends offer several levels of membership. Memberships for individuals and families include a yearly pass to Prince William Forest Park. People of all backgrounds are encouraged to join. Membership applications are available online at <http://www.bmsi.com/fpwfp/join.html> or in person at the park's visitor center.

Keeping Watch Against West Nile Virus

West Nile Virus (WNV) is an organism capable of causing life-threatening disease. It is transmitted by infected mosquitoes. Thought to have originated in northern Africa, its first appearance in the United States was in August of 1999.

Most people who have been exposed to WNV do not exhibit any symptoms, or they are very mild and temporary. However, in extreme cases, WNV can cause encephalitis (inflammation of the brain and spinal cord) in humans and other animals. To date, over 3,000 people in the United States have developed encephalitis due to WNV, and more than 170 of them have died. Those who are very old, those who are very young, and those with compromised immune systems are at greatest risk of developing a serious illness due to WNV.

Prince William Forest Park contains more than 70% of the Quantico Creek watershed, including five man-made lakes, plus numerous vernal pools, wetlands, and stormwater runoff channels. All of these areas provide excellent habitat for mosquitoes. Yet even though many people view them as nothing more than pests, mosquitoes play an important role in our natural ecosystem. Many other animals (such as dragonflies, amphibians, fish, birds, and bats, to name but a few) feed on mosquito larvae and/or adults, and mosquitoes help with plant pollination. Additionally, with the exception of a few species, the mosquitoes found in this area are all native.



Delightful to observe while hunting, dragonflies -- along with amphibians, fish, birds, and bats -- are voracious consumers of adult mosquitoes and/or their larvae.

For these reasons, the National Park Service does not manage mosquito populations unless they are shown to pose a significant threat to human health and safety.

West Nile Virus has been found in the general region of the park. In response, the Resource Management staff at Prince William Forest Park implemented a West Nile Virus Monitoring Program in 2001. The second year of sampling was completed in September 2002. Beginning in June, two traps (a CDC light trap and a Gravid trap) were used to collect adult mosquitoes. Larval samples were also collected from numerous sites in the park. The adult mosquitoes were identified as to species and sent to the laboratory of the Fort Meade Center For Health Promotion and Preventative Medicine for testing. Eleven different species of mosquitoes were identified, and nineteen samples were submitted for testing. None of the samples tested positive for WNV. The park

has also been actively eliminating artificial breeding sites, and an outdoor WNV display was set up at the park on Founder's Day.

If you would like more information, or if you have any questions or concerns about the park's West Nile Virus Monitoring Program, please contact the park's Resource Management Division: 703-221-2176.

Park Natural Resource and Science Info On the Internet

The Natural Resource Program of Prince William Forest Park now has a Nature and Science link on the park's home page (www.nps.gov/prwi) The pages cover a wide range of 20 specific topics, such as watersheds, non-native species, and amphibians. The information is basic, informative, and inquisitive, so surf on over and check out these new pages. The contents will enhance your knowledge of the intricacies of the special place that is Prince William Forest Park.

Travel Trailer Village: A Welcoming Respite

The Travel Trailer Village is a park concession-operated recreational vehicle site within Prince William Forest Park, a unit of the National Park Service. It opened in the mid-1960s, a time when very few camping areas in the metropolitan area could accommodate the needs of people with travel trailers and motor homes. With its 75 paved, pull-through sites, some with full utility service hookups, the Travel Trailer Village was an ideal campground for this new type of tourist.

In the years since the Travel Trailer Village opened for business, recreational vehicles have expanded greatly in size and amenities. The camping sites at the Travel Trailer Village have changed also. A swimming pool and a



The pool at the park's Travel Trailer Village offers a means to cool off quickly when the mercury soars. The facility also has a children's playground and a laundromat, as well as easy access to shady trails that lead deep into the natural beauty of Prince William Forest Park.

children's playground have been built, all sites have water and electricity, and all sites have had their electric service upgraded to 30 amperes. The maximum size limit for trailers and motor homes is 35 feet.

However, what has remained constant is the desire of the Travel Trailer Village operators to provide a place where families can come: to get away from the hustle and bustle of their everyday lives, to get acquainted with the beauty of nature, and to get reacquainted with each other.

The Travel Trailer Village is an ideal location for visitors to our nation's Capitol and the many historical sites of this area, such as the battlefields of the Civil War. It is also a welcome respite for travelers on I-95 with trailers and RVs, who seek a safe, quiet place to spend the night. Many of our visitors have been regular returnees for 20 years or more, whether to visit landmarks, to visit relatives, or just to spend some time enjoying the scenery of a safe, quiet place.

Stay-Length Limits At Oak Ridge Campground

The capacity of each campsite at Oak Ridge Campground is a family unit (or six unrelated people) and two tents (or camping units) per site. No camper may stay longer than a total of 28 days in any calendar year (January through December). During the period from May 1st through September 30th, camping is limited to a total of 14 days.

Organized group camping or use of multiple sites for groups (such as church, youth, or school) is not permitted at Oak Ridge campground. Group camping is available at Turkey Run Ridge Group campground.

Reserve Your Cabin Camp Now!

Are you a member of a scout group, a church group, a youth group, another type of group, or do you have a large family? If so, and you would like to get your group together at Prince William Forest Park, now is the time to apply!

The park offers five rustic cabin retreat camps, built in the 1930s by the Civilian Conservation Corps, for groups such as yours. Camp capacities range from 60 to 200 campers. In addition to sleeping cabins of various sizes, each camp has a central dining hall and a number of restroom/shower buildings. The park offers educational programs, and the scenery is GREAT!

Camp rental rates vary from \$150 to \$325 per night, depending on camp size. It is also possible to rent a single cabin, which sleeps up to 10 people, for \$30-50 per night. Applications for the 2003 camping season (May through November) are being accepted now. For more information, visit our website at www.nps.gov/prwi or call 703-221-5843.

Pack It In – Pack It Out!

Coming Soon: Trash-Free Park

Prince William Forest Park has proudly adopted a "Trash-Free Park" program, which provides a safer, healthier, and more satisfying experience for all who enjoy the park's resources. Its primary goal is to eliminate the accumulation of solid waste within the park. In short, it requires all visitors to "Pack It In – Pack It Out!" Additionally, this program encourages reuse and recycling practices, which develop the habit of sharing in the responsibility for managing solid waste both inside and outside the park.

The success of this type of program has been realized in many parks and park systems across the country. Locally, these include all 184.5 miles of the C&O Canal National Historical Park along the Potomac River in Maryland, and all of Maryland's state forests & parks.

Under the guidelines of the "Trash-Free Park" program, all trash receptacles will be removed, in stages, from Prince William Forest Park. Visitors are now asked to take their refuse with them when they depart, leaving an unspoiled, trash-free park! The program affects all recreational sections of the park, including all picnic grounds, pavilions, hiker/biker trails, and camping areas.

PLEASE PLAN YOUR VISIT WITH CARE

We now ask all visitors to Prince William Forest Park to carry out their garbage when they leave. Over time, there will be fewer and



"Lumber" made from recycled plastic bottles has been used to build the park's picnic tables, which are not only weather-resistant, their high density makes them unattractive to thieves.

fewer garbage receptacles within the park. Eventually, there will be none. For visitor convenience, the park provides empty refuse bags at various locations throughout the park.

MAKE CREATIVE CHOICES OF WHAT TO BRING

There are many benefits of a "Trash-Free Park" program. By removing garbage and recycling containers within the park (and their associated odors), the program reduces annoying pests and unsightly conditions, and it helps users to be more aware of the need to recycle. By eliminating the need for disposal services, the program allows the park an opportunity to make more productive use of its limited financial resources.

REDUCE wasteful habits:

purchase reusable products; avoid individually wrapped products; use less paper.

REUSE resources: select washable and refillable items and containers; prepare to store and transport leftovers; borrow or rent items used infrequently.

RECYCLE resources: deliver glass, plastic, paper and metal products to collection depots.

TAKE YOUR TRASH WITH YOU WHEN YOU LEAVE

When everyone does their part, everyone realizes the reward: an unspoiled park.

Thank you for taking Pride in Your Park!



National Park Service
U.S. Department of the Interior

Prince William Forest Park
18100 Park Headquarters Road
Triangle, VA 22172

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Editor

Reine Wonite

**Chief of Interpretation &
Cultural Resource Management**

David Elkowitz

Contributors

Brian Carlstrom

Kathy Caudill

Rita Enders

Kate Richardson

NPS Photography

Reine Wonite

Comments? Write to:

Bob Hickman, Superintendent
Prince William Forest Park
18100 Park Headquarters Road
Triangle, VA 22172

Keeping Watch On Water Quality

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Simple chemical analysis of a collected water sample makes it possible to determine whether more in-depth analyses are needed. At the park's resource management lab, its staff measures such sample properties as acidity, clarity, and electrical conductivity, plus concentrations of dissolved oxygen, sulfur, lead, nitrates, nitrites, and phosphates. Historically, the collection sites associated with the pyrite mine and those near the park boundary exhibit the highest concentrations of metals.

Typically, the program runs from Memorial Day through Labor Day.

But in 2002, drought conditions limited stream flow in the larger creeks and dried up their smaller tributaries. This forced the end of sample collection at the affected sites in mid-August.



Amphibians, such as this leopard frog, are extremely sensitive to water quality because they spend much of their life cycle in water.